REMARKS

Change of correspondence address and power of attorney

Applicant has submitted herewith a change of correspondence address form and a power of attorney form. Therefore, Applicant requests that the correspondence address for the present patent application be changed in accordance with this form.

Objections to the drawings

First, FIG. 1A has been objected to and FIG. 3 (now FIG. 2) has been objected to because the reference number 13 of FIG. 1A and the reference number 35 of FIG. 3 (now FIG. 2) are not mentioned in the detailed description. Applicant has submitted corrected drawing sheets herewith in which these reference numbers have been removed.

Second, FIG. 2 has been objected to because there is no reference to FIG. 2 or its reference numbers in the detailed description. Applicant has submitted corrected drawing sheets in which FIG. 2 has been removed, and has further renumbered FIGs. 3, 4, 5, and 6 to instead now be FIGs. 2, 3, 4, and 5, for continuity. Applicant has also amended the specification so that the renumbered figures are properly referenced therein.

Claim rejections under 35 USC 102

Claims 1-15 have been rejected under 35 USC 102(e) as being anticipated by Lee (6,601,101). Claims 1 and 7 are independent claims, from which the remaining claims depend. Applicant has amended independent claims 1 and 7, and asserts that as amended, these claims are not anticipated by Lee. For at least the same reasons, then, the other pending claims, 2-6 and 8-15, are also patentable over Lee.

Claim 1

Claim 1 is limited to an apparatus including a network interface, a selector, memory, and an output queue. The selector has been amended so that it is responsive to the network interface identifying "*information regarding* the connection *between the first and second systems.*" The memory has been amended so that it stores the information regarding the connection between the first and second systems "*in response to the selector being responsive to the network interface identifying the information.*" The information includes "*at least one data packet.*" The output queue has been amended so that it sends the information regarding the connection between the first and second systems to the third system "*in response to one of the first and second systems having failed, such that failover is achieved to the third system in a peer-to-peer manner.*" Applicant contends that Lee does not disclose the amended limitations of claim 1.

In the claimed invention, the apparatus stores in the memory at least one data packet as the information regarding the connection between the first and the second systems. The output queue sends this information to the third system when one of the first and the second systems has failed. As a result, failover is achieved to the third system in a peer-to-peer manner.

By comparison, Lee does not store at least one data packet regarding the connection between the first and the second systems in its memory, and this information is not forwarded to a third system when one of the first and the second systems has failed. The Examiner indicates that the disks in FIG. 10 of Lee and referenced in column 16, lines 61-64 of Lee are the memory that stores information regarding the connection between the first and the second systems. However, column 16, lines 61-64 of Lee simply state that

> The clients 1010-1012 communicate in file sessions with the switch functioning as a thin server 1020 to access disks 1090-1092 and disks associated with slave servers 1094-1096.

Particularly, this excerpt of Lee does not state that the disks store information regarding the connection between first and second systems, where such information includes *at least one data packet*. The disks 1090-1092 are not described anywhere in Lee as storing the data packets being

sent in the connection between the first and second systems, as to which the claimed invention is limited.

The Examiner further indicates that the output processor of FIG. 2A of Lee and referenced in column 6, lines 39-56 of Lee is the output queue of claim 1. As has been noted, claim 1 has been amended so that the output queue sends the information regarding the connection between the first and second systems – which includes at least one data packet – to the third system in response to one of the first and second systems having failed. The output processor of FIG. 2A of Lee does not send such information, including at least one data packet, where one of the first and second systems has failed. In particular, column 6, lines 39-56 of Lee state the following

> The FIG. 2A provides additional detail on the flow of messages through the switch to the cluster devices. Client 110 opens a connection with cluster by sending a message to the switch 120. The switch 120 includes input processors 221 and 222, logic to process messages from the client 224, switch fabric 226, a forwarding table 227 and output port processors 228 and 229. The cluster consists of the switch 120 and cluster devices 130, 135 and 236. . . . While it is preferred for a switch to route messages among cluster devices by re-programming forwarding tables of the switch, the routing of messages among cluster devices may be shared (e.g., a bus), channeled (e.g., fibre channel) or switched, all of which can provide transparency to the client.

Therefore, it is important to recognize what Lee does and does not do. Lee allows a client to communicate with a cluster, by directly communicating with a switch, where the switch chooses one of the cluster devices to handle the communication session with the client. The output processors of Lee, however, do not send stored information regarding a connection between the client and one of the cluster devices – including *data packets* – to another cluster device where the client or the original cluster device has failed, in contradistinction to the claimed invention. That is, Lee does not disclose the output processors, or any other component, sending information regarding the connection between first and second systems – including at least one data packet – to a third system when one of the first and second systems has failed. Rather, the

switch in Lee is only responsible for handing off a connection initiated by a client to one of the cluster devices, and does not ever store at least one data packet for the output processor to send to another cluster device where the first cluster device to which the client is connected has failed.

Finally, claim 1 is limited to failover being achieved to the third system "in a peer-to-peer manner." However, Lee teaches a "Master/Slave or Aggregator/Controller" strategy for system failover, not a "peer-to-peer" strategy as to which the claimed invention is limited. (Col. 23, ll. 37-38) This is best depicted in FIGs. 1A and 1B of Lee. In FIG. 1A, the client 110 communicates with the switch 120. The switch 120 directs traffic from the client 110 to the device 135, such that there is a connection between the device 135 and the client 110. If the device 135 fails, then the switch 120 instead directs traffic from the client 110 to the device 130, so that the connection between the device 135 and the client 110 is instead assumed by the device 130. The switch 120 "updates its forwarding table so that additional messages from the client to cluster device will be routed to the second device [130] instead of the first device [135]." (Col. 6, ll. 21-23)

The manner by which the second system assumes the connection for the first system in Lee is thus for the switch, which acts as a master, to allow the second system to assume the connection for the first system. It is the switch in Lee that directs traffic to the first system prior to the first system failing, and which subsequently directs traffic to the second system after the first system fails. The approach by which the second system assumes the connection for the first system in Lee is therefore a classic master/slave strategy. By comparison, in a peer-to-peer approach, as to which the claimed invention is limited, there is no master that directs traffic from the failed first system to the second system so that the second system can assume the connection for the first system. Rather, the peer-to-peer manner for the second system assuming the connection for the first system, as inherent in and by definition of a peer-to-peer approach, has the second system taking over the connection for the first system without a switch or other master directing traffic to the second system in lieu of directing traffic to the first system.

Applicant invites the Examiner to look at renumbered FIG. 3 of the patent application as originally filed and compare it to FIGs. 1A and 1B of Lee in this regard. For instance, looking first at the patent application as originally filed, the first server 43 on the network 46 of FIG. 3 may fail. Connection traffic intended for the first server 43 is still sent by the router 41 and/or the router 42 onto the network 46. However, the second server 44 assumes the connection for the first server 43 upon failure of the first server 43, so that it handles the connection traffic for the first server 43 on the network 46. This is what is inherently meant by a peer-to-peer manner of a second system assuming a connection for a first system.

By comparison, in FIGs. 1A and 1B of Lee, the switch 120 only directs traffic from the client 110 to the first device 135 before the first device 135 fails. After the first device 135 fails, the switch 120 then only directs traffic from the client 110 to the second device 130, so that the second device 130 can assume the connection for the first device 135. This is inherently a classic master-slave manner of a second system assuming a connection for a first system, since the master – the switch 120 – does all the work, instead of the systems themselves, in having one system assume a connection for another system. For this reason, Lee does not disclose a "peer-to-peer manner" for a second system to assume a connection for a first system." For all of the above reasons, Lee does not anticipate the claimed invention.

Claim 7

Claim 7 is limited to a system, in which the means for "broadcasting ownership information" is accomplished by "multicasting." Furthermore, the means for continuation the application on the second system when the first system has failed is "such that failover is achieved to the second system in a peer-to-peer manner." Applicant contends that Lee does not disclose these limitations of claim 7.

First, Lee does not broadcast ownership information, and does not accomplish such broadcasting by multicasting. The Examiner states that the handoff of a TCP session is

interpreted as broadcasting ownership information. In particular, in the relied upon column 9, lines 1-22 of Lee, it is stated that

> A handoff of a client TCP session can be accomplished by initiating a TCH session. The TCH session is established between the first device and the second device. The TCH session is morphed into a TCP session by the second device . . .

However, broadcasting is a specific type of communication that is not accomplished in Lee. As stated in the Computer Desktop Encyclopedia entry cited in the cofiled Form 1449, broadcasting is to "transmit a request . . . or to advertise services *to every node on the network.*" In the handoff in Lee, by comparison, a TCH session is established just between a first device and a second device. This type of communication is not a broadcast communication, since the communication is between just two nodes. Applicant invites the Examiner to compare broadcast to unicast, which is described in the Computer Desktop Encyclopedia entry cited in the cofiled Form 1449 as "to transmit a message to *one* receiver, typically from a server to a workstation." This is what is being accomplished in Lee via its handoff of a TCH session – a simple transmission between a first device and a second device, not a *broadcast* of information to at least another system, as is accomplished in the claimed invention.

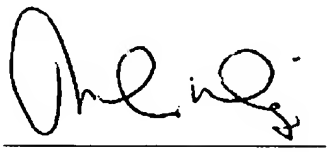
Furthermore, claim 7 has been amended so that broadcasting is accomplished by multicasting. Multicasting is an even more special form of broadcasting, which, as described in the Computer Desktop Encyclopedia entry cited in the cofiled Form 1449, is "to transmit a message to multiple recipients at the same time." "Multicast is a one-to-many transmission similar to broadcasting, except that multicasting means sending to specific groups." (The Encyclopedia entry indicates that multicasting is similar to broadcasting, and Applicant further contends that multicasting is one type of broadcasting.) Furthermore, this entry states that "in a unicast system, the data is replicated entirely to each recipient." Applicant asserts, therefore, that claim 7 is not anticipated by Lee, because Lee does not accomplish broadcasting or multicasting, but rather accomplishes unicasting.

Finally, claim 7 achieves failover in a peer-to-peer manner. Lee, by comparison, does not achieve failover in a peer-to-peer manner, as has been described in relation to claim 1. For this reason, too, claim 7 is also not anticipated by Lee.

Conclusion

Applicants have made a diligent effort to place the pending claims in condition for allowance, and request that they so be allowed. However, should there remain unresolved issues that require adverse action, it is respectfully requested that the Examiner telephone Applicants' Attorney so that such issues may be resolved as expeditiously as possible. For these reasons, this application is now considered to be in condition for allowance and such action is earnestly solicited.

Respectfully Submitted,



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